

## ABSTRACT

### METHOD AND APPARATUS FOR PREDISTORTION OF AN X-DSL LINE DRIVER

5

An apparatus and method is provided for minimizing in channel distortion in an X-DSL line driver is disclosed. The apparatus may be incorporated in an existing X-DSL architecture without additional circuitry. Out of band monitoring of a channel is implemented to adaptively minimize out of band interference and in band distortion. A  
10 unique training sequence, suitable for DMT line codes is set forth. The training sequence allows a full spectral characterization of the downstream signal space with a single upstream monitoring tone. The invention may be used with multi-channel X-DSL line drivers interfacing with any of a number of multi-channel supply architectures. The apparatus may be applied with equal advantage to communication  
15 protocols other than X-DSL. The apparatus may be applied with equal advantage in wired and wireless media.

# Application for U.S. Patent

## METHOD AND APPARATUS FOR PREDISTORTION OF AN X-DSL LINE DRIVER

5

10

Inventors: Behrooz **REZVANI**  
Address 3630 Andrews Drive #202  
Pleasanton, CA 94588  
A Citizen of United States

15

Sam **HEIDARI**  
Address 3402 Pinewood Terrace #112  
Fremont, CA 94536  
A Citizen of Iran

20

John Zhongxuan **ZHANG**  
Address 44453 CAVISSON Court  
Fremont, CA 94539  
A citizen of: P.R. China

25

Dale **SMITH**  
Address 39199 Guardino Drive  
Apt. #178  
Fremont, CA 94538  
A citizen of United States

30

Assignee: Velocity Communication, Inc.  
47709 Fremont Boulevard  
Fremont, CA 94538  
A California Corporation  
Entity: Small

35

Cary & Kelly, L.L.P.  
40 1875 Charleston Road  
Mountain View, CA 94043  
Telephone (650) 316-4011